

Title (en)  
DEVICE FOR DETERMINING AND/OR MONITORING FOREIGN STRUCTURES IN A FLUID OR IN A FLUID STREAM, AND METHOD FOR DOING SAME

Title (de)  
VORRICHTUNG ZUR ERMITTLUNG UND/ODER ÜBERWACHUNG VON FREMDSTRUKTUREN IN EINEM FLUID ODER EINEM FLUIDSTROM SOWIE VERFAHREN HIERZU

Title (fr)  
DISPOSITIF DE DÉTECTION ET/OU DE CONTRÔLE DE STRUCTURES ÉTRANGÈRES DANS UN FLUIDE OU DANS UN ÉCOULEMENT DE FLUIDE

Publication  
**EP 2605811 B1 20151021 (DE)**

Application  
**EP 11745700 A 20110812**

Priority  
• DE 102010034553 A 20100817  
• EP 2011004072 W 20110812

Abstract (en)  
[origin: WO2012022456A1] The present invention relates to a device for determining and/or monitoring foreign structures in a fluid or in a fluid stream, in particular blood or a bloodstream, with at least one optical monitor, at least one ultrasonic monitor and at least one signal-evaluating means, wherein the fluid can be monitored optically at least by means of the optical monitor and can be monitored ultrasonically at least by means of the ultrasonic monitor, and wherein, on the basis of the combination of the resulting monitoring signals, in particular on the basis of the comparison of the resulting monitoring signals, at least one foreign structure, in particular an air bubble and/or a solid body such as a blood clot, can be detected in the fluid by the signal-evaluating means and/or can be differentiated from at least a second foreign structure by the signal-evaluating means.

IPC 8 full level  
**A61M 1/36** (2006.01)

CPC (source: EP US)  
**A61M 1/3622** (2022.05 - EP US); **A61M 1/3626** (2013.01 - EP US); **G01N 29/02** (2013.01 - US); **G01N 33/49** (2013.01 - US); **A61M 1/36222** (2022.05 - EP US); **A61M 1/367** (2013.01 - EP US); **A61M 2205/3306** (2013.01 - EP US); **A61M 2205/3313** (2013.01 - EP US); **A61M 2205/3375** (2013.01 - EP US)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2012022456 A1 20120223**; AR 082713 A1 20121226; AU 2011291085 A1 20130228; AU 2011291085 B2 20150122; CN 103068418 A 20130424; CN 103068418 B 20161026; DE 102010034553 A1 20120308; EP 2605811 A1 20130626; EP 2605811 B1 20151021; JP 2013534160 A 20130902; JP 5873870 B2 20160301; TW 201223570 A 20120616; TW I569821 B 20170211; US 2013155387 A1 20130620; US 9068965 B2 20150630

DOCDB simple family (application)  
**EP 2011004072 W 20110812**; AR P110102987 A 20110817; AU 2011291085 A 20110812; CN 201180039775 A 20110812; DE 102010034553 A 20100817; EP 11745700 A 20110812; JP 2013524374 A 20110812; TW 100129343 A 20110817; US 201113817651 A 20110812